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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,154	06/16/2006	Manabu Kobayashi	128407	2556

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OLIFF & BERRIDGE, PLC
P.O. BOX 320850
ALEXANDRIA, VA 22320-4850

EXAMINER	
GRAHAM, CHANTEL LORAN	

ART UNIT	PAPER NUMBER
1797	

NOTIFICATION DATE	DELIVERY MODE
10/05/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction25944@oliff.com
jarmstrong@oliff.com

Office Action Summary	Application No.	Applicant(s)	
	10/583,154	KOBAYASHI ET AL.	
	Examiner	Art Unit	
	CHANTEL GRAHAM	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 April 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.1 14, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.1 14, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.1 14. Applicants' submission filed on 4/27/2010 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claim 1-3 and 20 are rejected under 35 USC 103 (a) as being obvious over ALDRICH ET AL. (US PATENT 6008164), and in view of DECKMAN ET AL. (US PG PUB 20030158055). Hereby referred to as ALDRICH and DECKMAN.

Regarding claim 1-3 and 20:

ALDRICH teaches lubricant base oil prepared from a hydrocarbon wax having a mixture of hydrocarbons that range from normal paraffins to highly branched paraffins (col. 3 lines 50-51). Where the mixture has a carbon chain length of about C_{20} to about C_{40}, which overlaps the range of claim 1 (a); and a free carbon index of said branched paraffins is at least about 3, which falls within the range of claim 1 (b) (col. 2 lines 36-46).

The difference between ALDRICH and the currently presented claims is that the concentrations of ALDRICH does not fall within the ranges recited in claim 1 (a) or overlap the ranges recited in claim 1 (b). However, as discussed above, the ranges overlap or encompass the claimed ranges. "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976);" claim 1 (a) and (b) are therefore rendered obvious by ALDRICH.

ALDRICH also teaches in claim 4, that the base oil has a viscosity index of at least about 120, which falls within the range of claim 1 (c).

ALDRICH does not explicitly disclose a kinematic viscosity at 40°C is 17-25 mm^2/s or a pour point of the lubricant base oil is between -10 degrees C to -40 degrees C, however DECKMAN does. DECKMAN discloses in paragraph 107 the paraffinic oil has a kinematic viscosity at 40°C approximately 22.7 cSt (a kinematic viscosity at 40°C is 17-25 mm^2/s); and in paragraph 28 that the base oils have a pour point of about -20 degrees C to -40 degrees C or lower (a pour point of the lubricant base oil is between -10 degrees C to -40 degrees C).

ALDRICH teaches lubricant base oil prepared from a hydrocarbon wax can originate from synthetic waxes from Fischer-Tropsch (obtained from an isomerization of a

starting straight-chain hydrocarbon material) (wherein the starting straight-chain hydrocarbon material is a Fischer-Tropsch synthetic wax) (col. 4 lines 9-12).

4. Claim 4-19, is rejected under 35 USC 103 (a) as being obvious over ALDRICH ET AL. (US PATENT 6008164), and in view of DECKMAN ET AL. (US PG PUB 20030158055), and in view of WITTENBRINK ET AL. (US PATENT 6506297). Hereby referred to as ALDRICH, WITTENBRINK and DECKMAN.

Claim 1-3 and 20 of the 103 (a) rejection above is hereby incorporated in this rejection.

Regarding claims 4-19:

ALDRICH does not explicitly teach the method of a Fischer-Tropsch synthetic wax having a 10% distillation temperature of not lower than 360°C to an isomerization under a condition that a decreasing ratio of a fraction having a boiling point of not lower than 360°C is not more than 40% by weight; however WITTENBRINK does.

WITTENBRINK teaches hydrocarbon base oils useful as lubricants in engine oil and industrial compositions, and process for their manufacture. A waxy, or paraffinic feed, particularly a Fischer-Tropsch wax, is reacted over a dual function catalyst to produce hydroisomerization and hydrocracking reactions, at 700°F.+ conversion levels ranging from about 20 to 50 wt. %, sufficient to produce a crude fraction, containing 700°F.+ isoparaffins. The methyl paraffins containing crude fraction is topped via atmospheric distillation to produce a bottoms fraction having an initial boiling point between about 650°F. and 750°F. which is then solvent dewaxed, and the dewaxed oil is then fractionated under high vacuum to produce biodegradable high performance hydrocarbon base oils (abstract; EXAMPLES 1-16 and A-C with corresponding TABLES).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the lubricant base oil of ALDRICH; by incorporating the method of producing hydrocarbon base oils as of WITTENBRINK.

The motivation would have been to provide a process that is capable of increasing the oxidative stability of hydroisomerized Fischer-Tropsch waxes while producing a lubricant as taught by ALDRICH (col. 1 lines 59-61).

Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Response to Arguments

Applicant's arguments filed 4/27/2010 have been fully considered but they are not persuasive.

Applicant argues on pg 6-7 "*Further, even if Aldrich or Deckman describe a range that overlaps with the ranges recited in claim 1 as the Patent Office alleges, the combination of Aldrich and Deckman would not have rendered obvious claim 1 in view of the unexpected results of requirements (a) and (b) recited in claim 1.*" This is not deemed persuasive to overcome the rejection of record for the reasons set forth above.

ALDRICH does teach that lubricant base oil prepared from a hydrocarbon wax having a mixture of hydrocarbons that range from normal paraffins to highly branched paraffins (col. 3 lines 50-51).

ALDRICH does teach that where the mixture has a carbon chain length of about C_{20} to about C_{40}, which overlaps the range of claim 1 (a); and a free carbon index of said branched paraffins is at least about 3, which falls within the range of claim 1 (b) (col. 2 lines 36-46).

The difference between ALDRICH and the currently presented claims is that the concentrations of ALDRICH does not fall within the ranges recited in claim 1 (a) or overlap the

ranges recited in claim 1 (b). However, as discussed above, the ranges overlap or encompass the claimed ranges. "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976);" claim 1 (a) and (b) are therefore rendered obvious by ALDRICH.

ALDRICH does also teach that in claim 4, that the base oil has a viscosity index of at least about 120, which falls within the range of claim 1 (c).

DECKMAN does disclose that in paragraph 107 the paraffinic oil has a kinematic viscosity at 40°C approximately 22.7 cSt (a kinematic viscosity at 40°C is 17-25 mm^2/s); and in paragraph 28 that the base oils have a pour point of about -20 degrees C to -40 degrees C or lower (a pour point of the lubricant base oil is between -10 degrees C to -40 degrees C).

Contrary to what Applicant is arguing the claimed elements were known in the art at the time of the invention and the combination of any of these elements yielded nothing more than predictable results.

Applicant argues on pg 7 " *As shown in Table A of the Declaration, if one of ordinary skill in the art were to have used Nc and Nb values that are outside of the ranges recited in claim 1, one would not have achieved the recited viscosity index and kinematic viscosity recited in claim 1. In other words, having (a) an average carbon number Nc in one molecule of not less than 29 but not more than 35 and (b) an average branch number Nb in one molecule, which is derived from a ratio of CH3 carbon to total carbon determined by 13C-NMR analysis and the average carbon number Nc in one molecule, of not more than (0.2Nc - 3.1) but not less than 1.5, is critical to achieving (c) a viscosity index is 145-170 and a kinematic viscosity at 40°C is 17-25 mm2/s, as recited in claim 1."* Examiner acknowledges the declaration under 37 CFR 1.132 filed 4/27/2010; however it is insufficient to overcome the rejection of claims 1-20 based upon the reference applied under 35 USC 103 as set forth in the action because Applicant argues that said disclosure of the prior art would not yield the

same results of Applicant claimed invention, and the declaration would further provide evidence to the sort. However the Examiner disagrees because the prior art also discloses (as stated above) the claimed limitations in ranges that overlap or lie within the claimed limitations. It is the Examiner position is that the claimed limitations "…not more than…" or "…not less than…" would encompass the disclosure of prior art's ranges if said ranges overlap or encompass the claimed ranges. "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976) This would further bring notice that the claimed invention would have been obvious because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination yielded nothing more than predictable results to one of ordinary skill in the art. In addition, optimization of said properties is prima facie obvious in the absence of new or unexpected results; as stated in the MPEP § 2144 "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." With respect to the range of the average carbon number and average branch number, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize these ranges through routine experimentation for the best results.

Applicant argues on pg 8 "*Regarding the kinematic viscosity, the Patent Office admits that Aldrich does not describe a kinematic viscosity at 40°C that is 17-25 mmZ/s. Deckman does not remedy this deficiency of Aldrich. Deckman describes a paraffinic oil that is a hydrotreated oil having a viscosity of approximately 22.7 cSt at 40°C. See paragraph [0107] of Deckman. Deckman describes that the hydrotreated oil having a viscosity of 22.7 cSt at 40°C also has a viscosity index of 116. See Table 3 of Deckman. Thus, even if the hydrotreated oil having a viscosity of approximately 22.7 cSt at 40°C were to have been combined with Aldrich, the resulting base oil would*

have had a viscosity index of 116, which is below the claim range of 145-170 recited in claim 1." Examiner disagrees for at least the reasons set forth above. In addition, ALDRICH teaches lubricant base oil prepared from a hydrocarbon wax can originate from synthetic waxes from Fischer-Tropsch (see rejection above); and DECKMAN teaches other useful lubricant oil base stocks include Gas-to-Liquids (GTL) base stocks, comprised of hydroisomerized Fischer-Tropsch waxes, and other wax-derived hydroisomerized (wax isomerate) base oils, in paragraph 28. It is the Examiner position that these references reasonably teaches similar elements and one of ordinary skilled in the art would have understood these base oils to be similar and have similar properties.

Applicant argues on pg 8-9 "*Wittenbrink does not remedy the above described deficiencies of Aldrich and Deckman. Wittenbrink does not describe, or provide any reason or rationale for one of ordinary skill in the art to have come to, features (a)-(c), as recited in claim 1. Thus, the combination of Aldrich, Deckman and Wittenbrink would not have rendered obvious claim 1. Claims 4-19 depend from claim 1. For at least their respective dependency, and for the additional features recited, the combination of Aldrich, Deckman and Wittenbrink also would not have rendered obvious claims 4-19."* This is not deemed persuasive to overcome the rejection of record for the reasons set forth above.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHANTEL GRAHAM whose telephone number is (571)270-5563. The examiner can normally be reached on M-Th 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Micheal Marcheschi can be reached on 571-272-1374. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHANTEL GRAHAM/

Examiner, Art Unit 1797

/James Goloboy/

Examiner, Art Unit 1797